

# CISC 2210 – Introduction to Discrete Structures

## Reading Assignment: Proofs

- Watch lectures 1-4 from “Introduction to Higher Math”.
  - Problem Solving: [https://www.youtube.com/watch?v=CMwFmj1B8v0&list=PLZzHxk\\_TP0StgPtqRZ6KzmkUQBQ8TSWVX&index=1](https://www.youtube.com/watch?v=CMwFmj1B8v0&list=PLZzHxk_TP0StgPtqRZ6KzmkUQBQ8TSWVX&index=1)
  - Introduction to Proofs: [https://www.youtube.com/watch?v=\\_x650JU8Uq4&index=2&list=PLZzHxk\\_TP0StgPtqRZ6KzmkUQBQ8TSWVX](https://www.youtube.com/watch?v=_x650JU8Uq4&index=2&list=PLZzHxk_TP0StgPtqRZ6KzmkUQBQ8TSWVX)
  - Propositional Logic: [https://www.youtube.com/watch?v=3kzhDsSzkCU&index=3&list=PLZzHxk\\_TP0StgPtqRZ6KzmkUQBQ8TSWVX](https://www.youtube.com/watch?v=3kzhDsSzkCU&index=3&list=PLZzHxk_TP0StgPtqRZ6KzmkUQBQ8TSWVX)
  - Proof Techniques: [https://www.youtube.com/watch?v=WSb9q4Rj2Bg&index=4&list=PLZzHxk\\_TP0StgPtqRZ6KzmkUQBQ8TSWVX](https://www.youtube.com/watch?v=WSb9q4Rj2Bg&index=4&list=PLZzHxk_TP0StgPtqRZ6KzmkUQBQ8TSWVX)
  
- Watch the following 4 lectures about proofs from TrevTutor.
  - Direct Proofs: <https://www.youtube.com/watch?v=YFZzLQN5q0U&feature=youtu.be>
  - Proof by Case: <https://www.youtube.com/watch?v=YDKBEOuMuy8&feature=youtu.be>
  - Proof by Contraposition: <https://www.youtube.com/watch?v=X-hJ7krLEn0&feature=youtu.be>
  - Proof by Contradiction: <https://www.youtube.com/watch?v=sRDwsfNDXak&feature=youtu.be>
  
- Study the following articles about proofs.
  - Basic Proof Techniques: [https://www.cse.wustl.edu/~cytron/547Pages/f14/IntroToProofs\\_Final.pdf](https://www.cse.wustl.edu/~cytron/547Pages/f14/IntroToProofs_Final.pdf)
  - Mathematical proof (Wikipedia): [https://en.wikipedia.org/wiki/Mathematical\\_proof](https://en.wikipedia.org/wiki/Mathematical_proof)
  
- Study the following sections from the book “Discrete Mathematics and its Applications,” by Kenneth H. Rosen<sup>1</sup>:
  - Section 1.7: “Introduction to Proofs” (pages 80–90).
  - Section 1.8: “Proof Methods and Strategy” (pages 92–107).

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<sup>1</sup>Do not buy the book!